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SMALLPOX

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1. GENERAL

Smallpox is an acute infectious disease of virus etiology which is highly contagious and is transmitted from man to man and by fomites. This disease is endemic in many parts of the Orient and frequently appears there in its most severe forms. As recently as 1940, an epidemic of hundreds of cases occurred in Korea, the infection having been imported from Japan. Small outbreaks have occurred annually in Japan in recent years. Serious epidemics in unvaccinated populations can be prevented only by prompt recognition of the disease and the immediate institution of effective control measures. Continued attention should be directed toward maintaining the vaccination status of troops at the required level, and toward assuring full information on the presence or absence of smallpox in occupied areas.

2. CLINICAL COURSE.

a. General. After an incubation period of ten days the disease sets in abruptly with high fever. Cardinal symptoms are headaches, generalized aching, nausea, and vomiting. The pre-eruptive stage lasts for four days. Rarely within this period there is a prodromal erythematous, petechial or hemorrhagic rash. At the end of this stage the typical lesions, the recognition of which alone permits the diagnosis of smallpox, appear and the fever largely subsides. The rash goes through progressive stages of development from papules to vesicles and finally to pustules which rupture and become encrusted. This sequence of events takes from twelve to fifteen days. Fever, which subsides with the onset of the rash, reappears with pustulation of the skin lesions and its degree is proportionate to the extent of secondary infection.

b. The Eruption. The distribution of the rash in smallpox is typical. It is seen first on the face and forearms and the number of lesions decreases regularly from the head downward. An important feature of the smallpox eruption is that at any given time the lesions are largely at a similar stage of development as contrasted to chickenpox in which successive crops appear. In further contrast to the lesions of chickenpox those of smallpox feel firmly attached to subcuticular structures rather than to the skin itself.

3. DIAGNOSIS.

a. Clinical. Given a patient with an eruption and a history

whose clinical features and chronology are suggestive of smallpox, if the number of lesions decreases from head to foot, the condition should be assumed to be smallpox. During the pre-eruptive stage, the clinical diagnosis cannot be made. Therefore, smallpox should be suspected in all cases of unknown fever occurring in a community where the disease is endemic.

b. Laboratory. There is no practical laboratory test for smallpox. At the onset of the disease the leukocyte count of the blood is low or normal but during the pustular stage a pronounced leukocytosis is the rule.

4. Treatment. There is no specific treatment. Penicillin should be given in full doses, because a considerable percentage of the deaths from smallpox are due to secondary pyogenic infections. Care should be taken in administration to avoid pustular lesions. Fluid balance should be maintained so as to insure a daily urinary output of at least 1500 cc. Symptomatic treatment to control headache, bodily discomfort and restlessness must be intelligently administered. The diet should be light and nourishing. Discomfort in the eyes is lessened by maintaining the patient in subdued light and irrigating the eyes with weak boric acid solution.

5. Prevention and Control of Smallpox Before an Epidemic.

a. Vaccination.

(1) All individual immunization records should be reviewed upon entry of troops into a country in which smallpox frequently occurs, and all those who have not been vaccinated with a recorded primary, accelerated, or immune reaction within three years, should be revaccinated until such a result is obtained.

(2) Successful vaccination either completely prevents or greatly decreases the severity of the disease. Vaccination even during the incubation stage often prevents or modifies the disease.

(3) Attention is directed to the maintenance of potency in the vaccine by refrigeration up to the time of its use. Storage at temperature above 5° C (41° F) for as short a period as overnight may destroy the efficacy of the vaccine. Storage in the freezing compartments of domestic type refrigerators is recommended.

b. Isolation. Strict isolation in hospital of smallpox patients should be practiced. All clothing, blankets, linen, and utensils must be sterilized.

c. Vaccination of Contacts. Immediate outside contacts of the patient should be promptly vaccinated. If found not to have been previously vaccinated they should be quarantined for fourteen days. All other patients and all hospital personnel should be revaccinated.

d. Information on Epidemics. Close liaison should be maintained by Unit Surgeons with local military government and civilian public health authorities to assure early information of the presence of smallpox. Radio reports of the occurrence of smallpox in military personnel or in adjacent civilian communities are to be made to this headquarters in accordance with par 40, Section III, AR 40-1080, 28 August 1945.

e. Supply. There must be timely requisition of supplies essential to the control of smallpox.

6. Control of Smallpox When Declared Epidemic.

a. All military personnel within or adjacent to the infected area will be revaccinated, regardless of last recorded successful reaction.

b. Measures should be instituted to effect mass vaccination of the civilian population; attention should be directed first to areas of cities or to population groups with high smallpox rates.

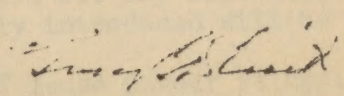
c. Quarantine of affected communities should be instituted with natives not permitted to leave or enter unless recently vaccinated. The infected community should be put off limits to troops, although necessary military traffic may be permitted.

d. Case Finding Teams should be placed in operation to carry out or supervise the following functions:

(1) Epidemiologic case study to determine sources of infection, vaccinate contacts, and make recommendations as to necessary area quarantine.

(2) House to house search for missed or unrecognized cases, especially in areas of high incidence.

(3) Organization and supervision of mass vaccination.


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